WEST Search History

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DATE: Friday, February 10, 2006

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		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L24	L23 and @AD<19990526	6
☐	L23	conferencing same pricing	20
☐	L22	L21 and @AD<19990526	39
☐	L21	L20 and session	121
☐	L20	L19 and (telecommunication or teleconferencing)	328
☐	L19	(number near3 (participant or user or client or conferee)) near8 (price or pricing or charge or charging)	1869
☐	L18	L16 and (service session)	1
☐	L17	L16 and session	39
☐	L16	L15 and @AD<19990526	96
☐	L15	L14 and (telecommunication or teleconferencing)	328
☐	L14	number near3 (participant or user or client or conferee) near8 (price or pricing or charge or charging)	1869
☐	L13	L12 and telecommunication	27
☐	L12	L11 and @AD<19990526	108
☐	L11	number near3 (participant or user or client or conferee) near8 (price or pricing)	655
		DB=PGPB,USPT; PLUR=YES; OP=ADJ	
☐	L10	L9 and (conferene or conferencing or teleconference or teleconferencing)	19
☐	L9	L8 and @AD<19990526	182
☐	L8	(accounting or account or price or pricing) model	1192
☐	L7	L6 and conferencing	1
☐	L6	L5 and @AD<19990526	19
☐	L5	accounting model	74
☐	L4	L3 and @AD<19990526	1
☐	L3	price compensation	18
☐	L2	L1 and @AD<19990526	12
☐	L1	(price or pricing or accounting or billing) near8 (participant near3 number)	79

END OF SEARCH HISTORY

L22: Entry 4 of 39 File: USPT Feb 11, 2003

DOCUMENT-IDENTIFIER: US 6519248 B1
TITLE: Packet data network having distributed database

Application Filing Date (1):
19980724

Brief Summary Text (4):
Packet data networks are designed and based on industry-wide data standards such as the open system interface (OSI) model or the transmission control protocol/Internet protocol (TCP/IP) stack. In the communications industry, Layer 1 may be called the physical layer, and the Layer 1 protocol defines the parameters of the physical communications channel, e.g., frequency spacing of a radio carrier, modulation characteristics, etc. Layer 2 is called the data link, or hardware interface, layer, and the Layer 2 protocol defines the techniques necessary for the accurate transmission of information within the constraints of the physical channel, e.g., error correction and detection, etc. Layer 3 may be called the network, or resource control, layer, and the Layer 3 protocol defines the procedures for reception and processing of information transmitted over the physical channel. The functionality of a Layer 2 protocol includes the delimiting, or framing, of Layer 3 messages sent between communicating Layer 3 peer entities. In cellular radio telephone systems, an air interface protocol, such as TIA/EIA/IS-136 and TIA/EIA/IS-95 published by the Telecommunications Industry Association and Electronic Industries Association, is a combined Layer 1, 2, and 3 protocol that specifies how remote stations like cellular telephones communicate with base stations and a mobile services switching center (MSC).

Brief Summary Text (6):
The bottleneck of IP-based communication with a wireless terminal is the air interface, which may be shared among wireless terminals by using a random access protocol, possibly with some soft-state-based priority for continuous transmissions, or by using a protocol as in conventional cellular radiotelephony that allocates a wireless channel to a terminal on a first-come-first-served basis. For packet data traffic like IP-based traffic, a random access (connection-less) protocol may be more appropriate than a channel allocation (connection-oriented) protocol. Such IP-based information flows originated or terminated by a wireless terminal typically have lower bit rates than the average wired IP flow. This limitation is especially felt when a base station's service area is large because the air interface capacity decreases with increasing cell size, as described in D. F. Bjornland et al., "UMTS--The Universal Mobile Telecommunications System", Telektronikk (August 1996); IEEE Personal Communication vol. 4, no. 4 (August 1997); and E. Nikula et al., "FRAMES Multiple Access for UMTS and IMT-2000", IEEE Personal Communications vol. 5, no. 2 (April 1998).

Brief Summary Text (19):
For a seamless handoff of a data stream or session from one base station or sector to another base station or sector, it is advantageous to establish the data path with the new base station before the one with the old base station is torn down. This form of "make-before-break" communication is sometimes called "soft" handoff, meaning that for a certain time two (or more) data streams are active in parallel.

In order to prepare for eventual handoffs, it may be required to keep parallel paths active for a large proportion of operation time.

Brief Summary Text (22):
In existing and in most planned systems with macrodiversity, nodes at one level of the hierarchically built cellular network are equipped with macrodiversity combiner devices that combine duplicate information in the uplink and create duplicates in the downlink. These combiner devices are assigned to connections at connection establishment (call setup), and they serve a session until it is released. This solution has at least the following drawbacks.

Detailed Description Text (41):
A representative value of CMP-timeout is on the order of 100 milliseconds to one second, and this value depends on the average rate of session handoffs. A representative value of LMP-timeout is on the order of seconds to tens of seconds, again depending on the average rate of handoffs. It is currently believed that a network's performance is not sensitive to the exact values of the validity times CMP-timeout and LMP-timeout, which in general can be independent of each other. It is thus not required that the clocks maintained in nodes be synchronized. These timers would typically be network-specific constants, although it will be appreciated that a network operator could adjust these values during operation and even use different values in different portions of the network.

Detailed Description Text (44):
In general, LMPs could stop tracking terminals involved in active data sessions, but this might have a negative effect on reliability. If LMPs do not track active terminals, there might be times when a terminal is not yet monitored by the CMPs and has stopped being monitored by the LMPs. In other words, LMPs store location information related to preferably all terminals, but at least to terminals not having location information stored in CMPs.

Detailed Description Text (48):
CMP databases are created and updated based on data packets sent by a terminal 10, assuming there are any such packets. If a terminal 10 expects to receive data (e.g., the terminal has an open TCP session) but currently has no data to send, then that terminal can send as necessary show-up packets (i.e, dummy data packets) that also configure CMPs. If the terminal expects to send data but for some reason does not expect to receive data, then there is no need to configure the CMP databases.

Detailed Description Text (57):
The terminal 10 monitors one or more known control channels of the CAN 14 to detect the presence of base stations 12, and the terminal selects one or more of the detected base stations. The set of base stations selected by a terminal at any given time is called in this application the set of attached base stations. Most details of this detection and selection process can be the same as the corresponding process used in one of the current cellular communication systems. More generally, the detection and selection process can be based on network characteristics, pricing considerations, etc., according to the following examples: greedy: attach to all detected base stations; per-BS pricing: attach to a number of detected base stations, where the service price depends on the number of base stations attached and the terminal user (or user application) chooses the number; and C/I measurement based: measure signal strength and noise of channels to/from detected base stations and decide which base stations to attach to based on a selected or adaptive threshold with hysteresis and overlap.

Detailed Description Text (60):
When a terminal 10 receives a paging packet, the terminal responds by generating and sending one or more show-up packets to the base stations in the set of connected base stations. The terminal continually sends show-up packets with a

period T.sub.su when the terminal expects to receive a data packet (e.g., when the terminal has an open TCP session) but currently has no data packet to send. As noted above in connection with keep-alive packets, a show-up packet may also be sent to a base station immediately after that base station is added to the set of attached base stations regardless of the period T.sub.su. Although not a requirement, this improves efficiency at little cost by ensuring that there is almost no time when the terminal is unreachable; before the terminal sends its first showup packet, the network does not know that the terminal may have moved into a new base station's service area after the terminal sent its last previous show-up packet. Nevertheless, regardless of this period, a show-up packet is sent to a base station immediately after that base station is added to the set of connected base stations. A representative value of the show-up packet repetition period T.sub.su is on the order of 1/10 to 1/3 of the CMP-timeout parameter.

Detailed Description Text (63):
Using Applicant's invention, it is possible for a network operator to price data sessions in a manner proportional to the operator's costs. As control of the network is determined by packets sent by the terminal 10, the terminal user (or a user application) can choose its desired quality of received service, taking into account different prices for different levels of quality. For instance, one price (per time unit) may be assigned to the state of being attached to a base station and another price may be assigned to the state of being connected to a base station. The terminal user can then freely determine the number of base stations attached or connected; more attached base stations provide increased assurance that the terminal is reachable, especially in case of a handoff, in exchange for a higher price. The same applies to connected base stations: more connected base stations provide a smaller probability that a data stream or session will be cut-off after a handoff in exchange for a higher price.

Detailed Description Text (72):
The simplest MDC node would detect when duplicate packets have arrived, keep one, and discard the rest. This would not require the MDC node to be aware of active data streams or sessions; the MDC node would need only to cache some information on passed packets and match incoming packets to this cache. Such a simple MDC node would not protect against bit errors in the air interface, but the other two reasons for macrodiversity would still be fulfilled.

Detailed Description Text (78):
One feature common to all MDC nodes is that it is not necessary for them to be informed explicitly about ongoing data streams or sessions. Duplicate packets that are not dropped by an MDC node for some reason cause no other problem than some extra load. The gateway node 16 should be configured as an MDC node so that duplicate packets have little chance of leaving the respective CAN 14.

Detailed Description Text (101):
Location and session information gets cleared by elapse of time rather than by specific messaging. As each piece of information stored in the system is assigned a finite timer and is cleared if no update comes before the timer expires, obsolete information can remain in the network only for a finite time that is bounded by the timers. In this way, the locations of active terminals are tracked based on time-outs, producing a network having "soft" states, i.e., states that are analogous to volatile memory rather than non-volatile memory. It will be understood that this feature can be implemented in a packet data network that does not have distributed location databases as described above and/or that uses a SS7 or equivalent control signalling system. For example, a network having a centralized location database such as a GSM-type network extended to packet data (the general packet radio service (GPRS) or CDPD) could benefit by having the centralized location information clear itself upon the elapse of a resettable time period. Also, upon leaving the service area of a node, a terminal would not need to send a control message (or packet) having the opposite effect of a show-up packet; the terminal's

respective location information would simply time-out eventually in each node.

Detailed Description Text (102):
Location information relating to active terminals (i.e., those engaged in data sessions) is stored in a distributed database, with each node knowing only on which outgoing port to forward packets and no node knowing precisely the locations of the remote terminals. It will be understood that this feature can be implemented in a packet data network having a SS7 or equivalent control signalling system and/or no "soft" states. The distributed location information that is established by terminal-originated packets as described above would be established by control messages in the SS7 or equivalent control signalling system. "Soft" states based on timers would not be needed: upon leaving the service area of a node, a terminal could send a packet or a control message that has an effect that is the opposite of the show-up packets described above, removing the terminal's respective location information in each node.

Detailed Description Text (106):
These features can be provided by many protocols and networks, not only an IP-based network, that operate as described above. In addition although many features have been described in terms of active terminals, i.e., terminals engaged in data sessions, it will be understood that the same descriptions can be applied to inactive (e.g., attached but not connected) terminals. The design decisions behind Applicant's protocol are described below.

Other Reference Publication (2):
Bjornland, D.F. et al., "UMTS--The Universal Mobile Telecommunications System" Telktronikk, pp. 127-132, (Aug. 1996).

Other Reference Publication (3):
Callendar, Michael H., "International Mobile Telecommunications--2000 Standard Efforts of the ITU", IEEE Personal Communications vol. 4, No. 4, pp. 6-7, (Aug. 1997).

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L7: Entry 1 of 1 File: USPT Jun 6, 2000

DOCUMENT-IDENTIFIER: US 6073160 A
TITLE: Document communications controller

Application Filing Date (1):
19961218

Detailed Description Text (109):
The accounting service is only the collector of this information; transforming it into actual costs is preferably performed by a separate billing service that is not part of the infrastructure. The accounting model is based in part on the definition of a principal: a named set of transaction methods. During the existence of any conversation between principals, there are four items of information available as follows:

Detailed Description Text (146):
Referring now to FIG. 10, illustrated therein is a data flow diagram illustrating the document communications controller (DCC) in a network interface embodiment. In one embodiment, the document communication controller 250 is connected as the "link" between a telephone company broadband connection (e.g., ATM) 252 and a set of customer premises equipment 256. Set 256 includes, but is not limited to, a video conferencing unit 260, a television or display device 262, a telephone 264, an audio output system 266 and a computer 268. As depicted, the customer premises equipment is located with a home or office environment. Using the DCC, any one of the components in set 256 may be employed to access information via the broadband network. The information is represented as one of three objects, including telephone company information 270, document services 272 or third party information services 274. Further details of the document services object are found in copending application Ser. No. 08/768,452 (Atty. Docket No. D/95287), filed concurrently herewith and hereby incorporated by reference for its teachings. Also depicted in FIG. 10 is Controller management system 280.

Detailed Description Text (147):
FIG. 11 is a detailed view of the physical interconnections achieved with the document communications controller. In particular, the DCC is connected to the telco via an external ATM connection 290. Within the customer premises, interconnections to the ATM network are provided via the DCC. As will be described in further detail with respect to FIGS. 14 and 15, interface ports are provided on the DCC hardware to interconnect ISDN telephony equipment 292, local area network 294, video equipment 298, audio equipment 300 and other consumer owned services represented as block 296. It will be appreciated that the consumer owned services may include expansion capability for third-party services provided on the customer premises. Such services may include on-demand video, video conferencing, interactive television, digital audio. As will described herein, the various pieces of diverse home/office hardware require differing interfaces and protocols for interconnection. The DCC is intended to meet the requirements of the diverse hardware, providing a common interface for all to the ATM network 290.

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L2: Entry 10 of 12 File: USPT Dec 25, 1990

DOCUMENT-IDENTIFIER: US 4980826 A
TITLE: Voice actuated automated futures trading exchange

Application Filing Date (1):
19840319

Brief Summary Text (3):
The major purpose of the futures marketplace is to provide a facility whereby large numbers of people can make bids and offers through a central location on a commodity contract in order to determine its market value. A second purpose of the futures market is to spread the risk of price changes in a business from a small group of people to a larger group of people. This process is known as risk management. The reason the risk can be spread is that speculators, in addition to hedgers, enter the market and provide liquidity when they recognize an economic benefit from changes in the prices of commodity contracts. The larger number of participants allows a hedger to identify a price level which takes into account his cost of doing business and his desired profit level and then to lock-in a price level by offsetting losses in the cash market with equal gains in the futures market. All of this must be done in such a way as to minimize fraud and manipulation of the marketplace and is conducted with the oversight of and under the direction of the federal government which establishes the required rules and regulations.

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L27: Entry 8 of 27 File: USPT Aug 26, 2003

DOCUMENT-IDENTIFIER: US 6611501 B1
TITLE: Process management system

Application Filing Date (1):
19980319

Brief Summary Text (46):
Future service retailing might be offered across an architecture of the telecommunication information networking architecture type. This brings together elements of the multi-service network and DPE technologies mentioned. An example of such an architecture is that being defined by the TINA Consortium. Reference might be made to "Telecommunications Information Networking Architecture", Oshisanwo A., Boyd T., Proc. 4th IEEE Conf. Telecommunications, IEEE, London 1993.

Detailed Description Text (2):
As mentioned above, a suitable technical context for embodiments of the present invention would be an information networking architecture of the type defined by the Telecommunications Information Networking Architecture Consortium (TINA-C). Such an architecture is based on Open Distributed Processing (ODP) principles of object orientation and distribution, applied to telecommunications system design using Telecommunications Management Network (TMN) managed objects and Intelligent Network (IN) concepts for service management and control.

Detailed Description Text (3):
In a TINA-C architecture, there are three sets of concepts, a logical framework architecture, a service architecture, and a management architecture.

Detailed Description Text (5):
The application software is itself subject to organisation in TINA-C. The service architecture defines basic object types, and rules for their usage that can be used to design application software that provides services. A service is defined as a meaningful set of capabilities provided to a user. A service may have many users in different roles. For example, the end-user is the person who uses the service for its intended function, the service manager manages the service, and the network provider provides and manages the underlying resources required by a service. The notion of service in TINA-C applies to all applications that are accessible to users, including management services. The service architecture contains a call model suitable for a wide range of service types.

Detailed Description Text (8):
Available documentation, in addition to the reference given above, includes a set of deliverables, such as "O-O Modelling and Design", by J Rumbaugh et al, published by Prentice Hall in 1991, "Overall Architecture" TINA-C Deliverable 1994 by M Chapman et al and "Guidelines for the Definition of Managed Objects", published in "The Management of Telecommunications Networks" edited by R Smith et al and published by Ellis-Horwood in 1992.

Detailed Description Text (10):
Referring to FIG. 1, to enable system design according to a TINA-C architecture,

three ODP viewpoints can be selected, these being as follows: Information: a viewpoint on a system that focuses on the semantics of information and information processing activities in the system. Computational: a viewpoint on a system that focuses on the distributable software objects and their interactions. Engineering: a viewpoint on a system that focuses on the deployment and distribution aspects of the system and on the infrastructure to support distribution.

Detailed Description Text (14):
Within TINA-C the notation chosen for information specifications is the ISO/IEC and ITU-T recommended GDMO (Guidelines for the Definition of Managed Objects) with GRM (General Relationship Model). GDMO is extensively used in the TMN community for information modelling and thus allows TINA-C to directly reuse this work. Rumbaugh's OMT (Object Management Tool) notation (described in "Object-Oriented Modelling and Design", by Rumbaugh et al, published by Prentice-Hall in 1991) is used for graphical representation of information specifications.

Detailed Description Text (16):
A notation which might be chosen for computational specifications is TINA-C ODL (Object Definition Language), which is an enhancement of OMG IDL (Object Management Group Interface Definition Language). TINA-C has extended OMG IDL to allow for the definition of objects that have multiple interfaces and for the definition of stream interfaces.

Detailed Description Text (27):
TINA-C systems make use of "session" concepts and "access concepts. These are as follows.

Detailed Description Text (36):
Users need to have flexible access to services, in terms of the locations from which they access the service and the types of terminal they use. User access is therefore distinguished from terminal access. An agent concept is used in defining the TINA-C access model. An agent is this context is a computational object, or collection of objects, that acts on behalf of another entity.

Detailed Description Text (158):
This type of negotiation strategy clearly has application to negotiation procedures other than simply those used in communications, in call setup, and is independently inventive in the context of software agents negotiating to select a mutually acceptable solution from a negotiation space which comprises a range of options which can each be broken up into sub-options and weighted preferentially. For instance, this would be the case where agents are negotiating to establish a pricing strategy over a commodity with multiple components where the components can be mixed and matched to get an optimum combination. This applies in the travel industry where a product (overseas travel) has many different components such as travel mode, accommodation and timing.

Detailed Description Text (159):
4. Connection Setup in the TINA-C Environment

Detailed Description Text (160):
The following describes the setting up of a service session in a TINA-C environment, including the use of user agents to implement an embodiment of the present invention to select and put in place a mutually acceptable configuration for the service session.

Detailed Description Text (161):
The application uses the TINA-C framework as a basis for determining individual agent roles and the sequence of interactions between each of the agents in order to establish a service session.

Detailed Description Text (162):
(It should be noted that, by adopting the TINA `session` concept, it is possible to avoid the need to represent some features. An example of this is a feature called `Call Waiting`, which enables users to switch between two calls. This feature does not exist as such in the TINA system, since a user can receive any number of calls simultaneously. Every time an incoming call is accepted, a new `call` window appears on the terminal screen, which is associated with a unique session identifier.)

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L27: Entry 7 of 27 File: USPT Jan 6, 2004

DOCUMENT-IDENTIFIER: US 6674759 B1
TITLE: System for managing telecommunications

Application Filing Date (1):
19990325

Detailed Description Text (28):
Data handler 350 includes at least the SCF and the SDF. In some embodiments, message handler 345 and data handler 350 both include the SCF and the SDF and services are partitioned among the functional entities. Two other functions are shown in data handler that are not standardized functional entities. Accounting generates a billing record and echo handles the echo cancellers. Typically, an echo canceller is disabled for a data call and enabled after the data call for use on subsequent voice calls, however, other techniques are applicable.

Detailed Description Text (49):
FIG. 6 shows a possible version of the data handler. Data handler 630 is shown. Data handler 630 includes service control center 631, service selection 632, service logic center 633, feature process 634, service data center 635, service data manager 636, echo control 637, and accounting 638. Data handler 630 receives service request messages from the message handler. These messages result from an armed detection points triggering the message handler to invoke data handler 630. The messages also result from features implemented through the auxiliary manager. Service control center 631, service logic center 633, and service data center 635 are static processes created at start-up. Service control center 631 creates instances of service selection managers on a call by call basis. Service control center 631 notifies the Switching manager to route subsequent service request messages for that call to the appropriate service selection manager. Service selection manager 632 represents any of the service selection managers created by service control center 631.

Detailed Description Text (53):
After a release message on a call, billing requests will be forwarded to accounting 638. Accounting 638 will use the call control block to create a billing record. The call control block would contain information from the ISUP messages for the call and from CCM processing. From the address complete message (ACM), the call control block would include the routing label, CIC, message type, and cause indicators. From the answer message (ANM), the call control block would include the routing label, CIC, message type, and backward call indicators. From the initial address message (IAM), the call control block would include the routing label, CIC, message type, forward call indicators, user service information, called party number, calling party number, carrier identification, carrier selection information, charge number, generic address, origination line information, original called number, and redirecting number. From the release message (REL), the call control block would include the routing label, CIC, message type,, and cause indicators. From the suspend message (SUS) or the pass along message (PAM), the call control block would include the routing label, CIC, and message type. Those skilled in the art are familiar with other pertinent information for a billing record and appreciate that some of this information could be deleted.

Detailed Description Text (54):
For POTS calls, the billing request will come from the origination and termination managers through the auxiliary manager. For IN calls, the request will come from service selection 632. Accounting 638 will generate a billing record from the call control blocks. The billing record will be forwarded to a billing system over a billing interface. An example of such an interface is the I.E.E.E. 802.3 FTAM protocol.

Other Reference Publication (8):
Barr, W.J., et al., The TINA Initiative, IEEE Communications Magazine, vol. 31, No. 3, New York (US), pp. 70-76, Mar. 1993.

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